

CLAIMS

1. A method for packing agricultural produce comprising the steps of:
providing a container having at least one communications aperture formed in a wall thereof;
providing at least one flexible controlled permeability bag within said container;
providing at least one bag aperture in said at least one flexible controlled permeability bag in general registration with said at least one communications aperture;
sealing said produce inside said at least one flexible controlled permeability bag within said container, while leaving said at least one bag aperture and said at least one communications aperture open;
providing atmosphere treatment within said at least one bag via said at least one bag aperture and said at least one communications aperture; and
sealing at least one of said at least one bag aperture and said at least one communications aperture.
2. A method for packing agricultural produce according to claim 1 and wherein said atmosphere treatment comprises vacuum cooling.
3. A method for packing agricultural produce according to claim 1 and wherein said atmosphere treatment comprises fumigation.
4. A method for packing agricultural produce according to claim 1 and wherein said atmosphere treatment comprises gas treatment.
5. A method for packing agricultural produce according to claim 2 and wherein said atmosphere treatment comprises fumigation.
6. A method for packing agricultural produce according to claim 2 and wherein said atmosphere treatment comprises gas treatment.

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7. A method for packing agricultural produce according to claim 3 and wherein said atmosphere treatment comprises gas treatment.

8. A method for packing agricultural produce according to claim 1 and wherein said at least one communications aperture formed in a wall thereof is formed in a sealing layer adhered to a wall of said carton.

9. A method for packing agricultural produce according to claim 1 and wherein said flexible controlled vapor selective permeability bag comprises a gas impermeable bag.

10. A method for packing agricultural produce according to claim 1 and wherein said flexible controlled vapor selective permeability bag comprises a gas permeable bag having selected permeability characteristics adapted to a given type of produce.

11. A method for packing agricultural produce according to claim 1 and wherein said providing at least one bag aperture in said flexible controlled permeability bag in general registration with said at least one communications aperture comprises:

inserting said bag into said container;
at least partially filling said bag with said produce;
adhering said bag to said container adjacent said at least one communications aperture; and
aperturing said bag generally in registration with said at least one communications aperture.

12. A method for packing agricultural produce according to claim 8 and wherein said providing at least one bag aperture in said flexible controlled permeability bag in general registration with said at least one communications aperture comprises:

inserting said bag into said container;
at least partially filling said bag with said produce;
adhering said bag to said container adjacent said at least one

communications aperture; and

aperturing said bag and said sealing layer in a single operation.

13. A method for packing agricultural produce according to claim 1 and wherein said sealing at least one of said at least one bag aperture and said at least one communications aperture comprises attaching an adhesive sticker over said at least one communications aperture from the outside of said container.

14. A method for packing agricultural produce according to claim 1 and wherein said flexible controlled gas selective permeability bag comprises a gas impermeable bag.

15. A method for packing agricultural produce according to claim 1 and wherein said flexible controlled gas selective permeability bag permeability bag comprises having selected permeability characteristics adapted to a given type of produce.

16. A method for packing agricultural produce according to claim 1 and wherein said sealing at least one of said at least one bag aperture and said at least one communications aperture comprises attaching a cap over said at least one communications aperture from the outside of said container.

17. A carton suitable for packing agricultural produce and comprising at least one sealable localized atmosphere communication aperture formed in a wall thereof.

18. A carton according to claim 17 and also comprising a plurality of ventilation apertures formed in at least one wall thereof.

19. A carton according to claim 17 and also comprising a gas impervious layer arranged for sealing engagement with said at least one sealable localized atmosphere communication aperture.

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20. A carton according to claim 19 and also comprising an interiorly disposed bag. *WHICH IS*

21. A carton according to claim 20 and wherein said bag is ~~a modified~~ *WATER VAPOR PERMEABLE* plastic atmosphere bag.

22. A carton according to claim 19 and wherein said sealing layer is an adhesive-coated plastic sticker.

23. A carton according to *claim 20* ~~claims 20 and 22~~ and wherein said bag is adhered to said adhesive-coated plastic sticker.

24. A carton according to claim 23 and wherein said bag and said adhesive-coated sticker are both apertured *(in two bags)* adjacent said sealable localized atmosphere communication aperture, thereby to provide a fluid communication pathway between the interior of the bag and the exterior of the carton.

25. A carton according to claim 24 and also comprising a further gas impervious sealing layer sealingly engaging said adhesive-coated sticker, thereby sealing the interior of the bag from the exterior of the carton.

26. A carton according to claim 20 and wherein said bag is filled with agricultural produce.

27. A carton according to claim 21 and wherein said bag is filled with agricultural produce.

28. A carton according to claim 19 and wherein said sealing layer is an adhesive-coated sticker.

29. A carton according to *claim 20* ~~claims 20 and 22~~ and wherein said bag is adhered

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to said adhesive-coated sticker.

30. A carton according to claim 19 and wherein said sticker comprises selective permeability properties.

31. A carton according to claim 22 and wherein said sticker comprises selective permeability properties.

32. A carton according to claim 23 and wherein said sticker comprises selective permeability properties.

33. A system for packing agricultural produce comprising:
at least one container having at least one communications aperture formed in a wall thereof;
at least one flexible controlled permeability bag within said container, said at least one bag having an aperture in general registration with said at least one communications aperture and being adapted for containing said produce inside said at least one flexible controlled permeability bag within said container, while leaving said at least one bag aperture and said at least one communications aperture open;
treatment functionality, operative for providing atmosphere treatment within said at least one bag via said at least one bag aperture and said at least one communications aperture; and
sealing functionality for sealing at least one of said at least one bag aperture and said at least one communications aperture.

34. A system for packing agricultural produce according to claim 33 and wherein said atmosphere treatment comprises vacuum cooling.

35. A system for packing agricultural produce according to claim 33 and wherein said atmosphere treatment comprises fumigation.

36. A system for packing agricultural produce according to claim 33 and

wherein said atmosphere treatment comprises gas treatment.

37. A system for packing agricultural produce according to claim 34 and wherein said atmosphere treatment also comprises fumigation.

38. A system for packing agricultural produce according to claim 34 and wherein said atmosphere treatment also comprises gas treatment.

39. A system for packing agricultural produce according to claim 35 and wherein said atmosphere treatment also comprises gas treatment.

40. A system for packing agricultural produce according to claim 33 and wherein said at least one communications aperture formed in a wall thereof is formed in a sealing layer adhered to a wall of said carton.

41. A system for packing agricultural produce according to claim 33 and wherein said flexible controlled permeability bag comprises a modified atmosphere bag.

42. A system for packing agricultural produce according to claim 33 and wherein said flexible controlled permeability bag comprises a gas permeable bag having selected permeability characteristics adapted to a given type of produce.

43. A system for packing agricultural produce according to claim 33 and wherein said at least one bag aperture is formed in said flexible controlled permeability bag in general registration with said at least one communications aperture by the following functionality:

inserting said bag into said container;

at least partially filling said bag with said produce;

adhering said bag to said container adjacent said at least one communications aperture; and

aperturing said bag generally in registration with said at least one communications aperture.

44. A system for packing agricultural produce according to claim 42 and wherein said at least one bag aperture is formed in said flexible controlled permeability bag in general registration with said at least one communications aperture by the following functionality:

- inserting said bag into said container;
- at least partially filling said bag with said produce;
- adhering said bag to said container adjacent said at least one communications aperture; and
- aperturing said bag generally in registration with said at least one communications aperture.

45. A system for packing agricultural produce according to claim 33 and wherein said sealing at least one of said at least one bag aperture and said at least one communications aperture is effected by the following functionality:

- attachment of an adhesive sticker over said at least one communications aperture from the outside of said container.

46. A method for loading a refrigerated container having a refrigeration unit producing a flow of forced air and a flow of return air under negative pressure in order to provide maximum loading and cooling efficiency, the method comprising:

- loading palletized ventilated cartons having ventilating apertures formed in walls thereof into a refrigerated shipping container in a manner such that there is defined a central plenum between rows of loaded pallets; and

- selectively blocking air passages inside said container such that said forced air flow is directed principally through said plenum and through interstices between ones of said ventilated containers and thus generally horizontally through said ventilating apertures.

47. A method according to claim 46 and wherein:

- a forced air flow from said refrigeration unit is supplied along channels formed in a floor of the container and extending parallel to a longitudinal axis thereof;

at least a portion of said forced air output rises through spaces between adjacent floor elements in the floor of the shipping container, except where physically blocked and relatively unimpeded from a channel underlying said plenum; and

at least a portion of said forced air output rises relatively unimpeded from open ends of said channels at a back end of the container into back plenum defined rearwardly of said rows of pallets

48. A loaded refrigerated container having a refrigeration unit producing a flow of forced air and a flow of return air under negative pressure in order to provide maximum loading and cooling efficiency, the loaded container also comprising:

palletized ventilated cartons having ventilating apertures formed in walls thereof positioned in said refrigerated shipping container in a manner such that there is defined a central plenum between rows of loaded pallets and wherein

air passages inside said container are selectively blocked, such that said forced air flow is directed principally through said plenum, through interstices between ones of said ventilated containers and thus generally horizontally through said ventilating apertures.

49. A loaded refrigerated container according to claim 48 and wherein:

a forced air flow from said refrigeration unit is supplied along channels formed in a floor of the container and extending parallel to a longitudinal axis thereof;

at least a portion of said forced air output rises through spaces between adjacent floor elements in the floor of the shipping container, except where physically blocked and relatively unimpeded from a channel underlying said plenum; and

at least a portion of said forced air output rises relatively unimpeded from open ends of said channels at a back end of the container into back plenum defined rearwardly of said rows of pallets

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